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ABSTRACT

Unintentional injuries are the number one cause of death in childhood, and boys experience two to four times more injuries than girls. The present study examined whether mothers differed in their speed to intervene and the nature of their intervention responses depending on the sex of the child, the injury history of the child, the level of risk taking mothers expected of the child, and the risk-taking activity in which the child was engaged. Videotapes of 8-year-old children (either boys or girls) engaging in injury-risk play activities on a playground were shown to mothers who were asked to intervene by stopping the tape and saying what they would do if they and their child were in the situation shown. Multivariate analyses of variance revealed that when viewing female children, mothers were more likely to judge behaviors as posing some degree of injury-risk, and they intervened more frequently and quickly than when viewing male children engaged in exactly the same behaviors. The speed of mothers' intervention positively correlated both with their children's injury history and frequency of risk taking, indicating that mothers of children who were previously injured and often engaged in injury-risk behaviors had a higher degree of tolerance for children's risk taking than mothers of children who experienced fewer injuries and engaged less frequently in injury-risk behaviors. Examining the nature of mothers' verbalizations in response to children's risk taking revealed that girls received more cautions and statements encouraging them to analyze the situation and to think in terms of how their behavior could lead to injury outcomes, whereas boys received more statements encouraging risk-taking behavior. (Author/KB)

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Mothers' Responses To Boys And Girls Engaging In Injury-Risk Behaviors On A Playground: Implications For Sex Differences In Childhood Injuries

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ABSTRACT

Unintentional injuries are the number one cause of death in childhood, and boys experience 2 to 4 times more injuries than girls. The present study examined whether mothers differ in their speed to intervene and the nature of their intervention responses depending on the sex of the child, the injury history of the child, the level of risk taking mothers expected of the child, and the risk-taking activity in which the child was engaged. Videotapes of 8 year-old children (either boys or girls) engaging in injury-risk play activities on a playground were shown to mothers who were asked to intervene by stopping the tape and saying whatever they would if they and their child were in the situation shown. MANOVAs revealed that when viewing female children mothers were more likely to judge behaviors as posing some degree of injury-risk, and they intervened more frequently and quickly than when mothers viewed male children engaging in *exactly* the same behaviors. Mothers' speed to intervene positively correlated both with their children's injury history and frequency of risk-taking, indicating that mothers of children who were previously injured and often engaged in injury-risk behaviors had a higher degree of tolerance for children's risk taking than mothers of children who experienced fewer injuries and less frequently engaged in injury-risk behaviors. Examining the nature of mothers' verbalizations in response to children's risk taking revealed that girls received more cautions and statements encouraging them to analyze the situation and to think in terms of how their behavior could lead to injury outcomes, whereas boys received more statements encouraging risk taking behavior.

RATIONALE

Unintentional injuries pose a national health threat to North American children, resulting in more loss of life than the next six causes combined.

For virtually every type of injury, boys experience more frequent and severe injuries. Although several studies indicate that boys routinely engage in more risk taking than girls, we understand little about why this is the case. In the present study we examined the possibility that parents differentially socialize boys and girls with respect to risk taking (i.e., engaging in injury-risk behaviors when there are alternative behaviors possible).

AIMS

(1) To examine if mothers respond more frequently and quickly to injury-risk play behaviors of girls as compared to boys.

(2) To examine if the nature of mothers' verbal responses to children's injury-risk play behaviors differs for boys as compared to girls (e.g., more encouraging comments to boys than girls during risk-taking episodes).

METHOD

Subjects

The sample comprised 30 mothers of same-sex children, with the eldest child 8 years of age, including 14 mothers of sons and 16 mothers of daughters.

Materials

Mothers viewed a 12 minute color videotape of a child (gymnast; 8 years of age) engaging in a series of playground activities. The play session appeared naturalistic, with the child moving from one activity to another without breaks or segmentation between any activities. Mothers saw a video of a child of the same sex as their children.

The video comprised *ten* parts, including two for each of the following five activities: slide, swing, climber, parallel bars, teeter totter. Each part comprised a random ordering of five types of behaviors:

1) *Neutral Behavior* (e.g., walking)
2) *Positive Attention Getting Behavior* (e.g., cartwheel)
3) *Negative Attention Getting Behavior* (e.g., littering)
4) *No Risk Behavior* (i.e., proper and careful use of a playground structure; e.g., the slide)
5) *Risk Behavior* (i.e., a sequence of THREE behaviors, each of which posed some degree of injury-risk, and which incremented in injury-risk across the three behaviors; **Example**: stand on swing (Risk Behavior 1), shift to elbow hold while still standing (Risk Behavior 2), jump up and down on swing while standing and using elbow hold (Risk Behavior 3))

Mothers also completed questionnaires:

1) Injury Behavior Checklist (IBC)
   This provides a standardized measure of their child's typical level of risk taking (max score = 96, the higher the score the more the child engages in injury risk behaviors).
2) Injury History Questionnaire
   This provides an index of the total number of injuries that the target child (i.e., child 8 years of age) had recently experienced that required a medical or dental visit.

Procedure

Mothers viewed the videotape privately and stopped the videotape whenever the child did anything to which they would respond if it were their child. On stopping the tape they spoke aloud to the child, saying whatever they would say if they were there.

Examples of Mothers' Responses

BEHAVIOR	EXAMPLE QUOTE
Positive Attention Getting	Hey, that was a great cartwheel. Very good form.
Negative Attention Getting	Johnny you stop littering right now and go pick that up!
Neutral	Do you have a problem with your socks?
No Risk	Wow, have you gotten good at pumping on that swing. Glad you don't need me to help you anymore!
Risk: Behavior #1 in the sequence	Mary, please sit down on the swing. You can fall off and break your neck.

They then read out the clock time on the video (this allowed us to determine during which of the three incremental risk behaviors they had stopped the tape, if any). After viewing the videotape, mothers then completed the questionnaires and were debriefed about the focus of the study socialization.

RESULTS

Mothers' Reports of Their Children's Risk Taking Behavior

Boys were reported to engage in more risk taking than girls ($p < .05$). Shown below are the average scores on the IBC (max=96; higher scores indicate more risk taking) for boys and girls.

Average IBC Scores

BOYS	GIRLS
33.7	17.5

Mothers' Reports of Their Children's Injury History

Boys were reported to have experienced significantly ($p < .05$) more injuries than girls.

Average Injury History Scores

BOYS	GIRLS
1.2	0.4

Children's risk taking scores on the IBC positively correlated with the total number of injuries reported by mothers ($r=.42$, $p < .05$).

Frequency of Mothers' Responding to Children's Risk Taking on the Video

The frequency with which mothers stopped the videotape to comment on the child's behaviors varied depending on the child's sex, with mothers responding more frequently to girls' than boys' Risk Behaviors and Negative Attention-Getting Behaviors (ps < .05).

Average Frequency of Times (max = 10) Mothers Stopped the Video

TYPE OF BEHAVIOR	BOYS	GIRLS
Positive Attention Getting	0.5	0.3
* Negative Attention Getting	2.4	3.7
Neutral	0.1	0.1
No Risk	1	0.8
* Risk	1.2	4.3

* designates a significant sex difference

Frequency of Mothers' Responding to Children's Risk Taking on the Video

Mothers of daughters stopped the tape to comment on the child's Risk Behavior more frequently than mothers of sons for *each* of the five types of play activities (ps < .05).

Average Proportion of Times Mothers Stopped the Video During a Risk Behavior

TYPE OF PLAY ACTIVITY	BOYS	GIRLS
* Swing	0.4	2
* Climber	1	1.9
* Slide	0.5	1.9
* Parallel Bars	0.4	1.3
* Teeter Totter	0.1	1.4

* designates a significant sex difference

Speed of Mothers' Responding to Children's Risk Taking on the Video

For each play activity (climber, bars, swing, slide, teeter totter), mothers of daughters stopped the videotape to intervene earlier on in the Risk Behavior sequences than did mothers of sons ($p < .05$). The maximum speed to intervene was 4.0; higher scores indicate when mothers were slower to intervene, showing greater tolerance for risk taking.

Average Speeds to Intervene for Each Type of Play Activity

TYPE OF PLAY ACTIVITY	BOYS	GIRLS
* Swing	3.5	1.1
* Climber	3.2	1.2
* Slide	3	1.6
* Parallel Bars	3.7	2.1
* Teeter Totter	3.5	1.9

* designates a significant ($p<.05$) sex difference

Speed of Mothers' Responding and Their Own Children's Risk Taking Behavior and Injury History

Mothers' speed of intervention related to their child's risk taking and injury histories:

A positive correlation ($r= +.71$, $p < .05$) between mothers' average speed-of-intervention score and their own child's reported risk taking (IBC scores) indicated that mothers of risk takers had a high degree of tolerance for viewing risk taking while mothers of risk avoiders had less tolerance for viewing risk taking.

Mothers of children with fewer injuries intervened more quickly in response to children's risk taking, whereas mothers of children with a greater incidence of injuries intervened more slowly ($r= +.43$, $p< .05$).

Nature of Mothers' Verbal Responses to Children's Risk Taking

Mothers' verbal responses to children's risk taking varied for boys and girls ($p < .05$). Below are the average number of mothers' verbalizations when they stopped the tape during a child's Risk Behavior.

Average Number of Verbalizations Stated by Mothers to Boys and Girls

TYPE OF VERBALIZATION	TO BOYS	TO GIRLS
* Caution	0.6	3.7
* Reference to specific risk behavior	0.4	1.4
* Reference to general outcome (get hurt)	0.5	5.2
* Reference to injury process (e.g.,fall)	0.1	8.8
* Reference to specific injury outcome (cut, break bone)	0	3.4
* Directive to stop	0.4	9.1
* Request to stop	0.3	3.6
* Encouragement	2.1	0.6
Disapproval (no significant difference)	0.1	0.5
Explanations (no significant difference)	1.1	1.7

* designates a significant ($p<.05$) sex difference

CONCLUSIONS

Consistent with the notion that boys and girls are differentially socialized in injury-risk play behaviors, mothers in this study were more tolerant, and even encouraging, of risk taking by sons in comparison to daughters.

Mothers of sons responded to risk taking less often and when they responded to curtail the son's behavior it was in response to more extreme types of risk taking (i.e., slower to intervene), in comparison to how often and quickly mothers of daughters responded.

Moreover, the nature of mothers' verbalizations in response to children's risk taking varied for sons and daughters. Daughters were provided fuller explanations about their behavior which served to tie a specific outcome to a specific behavior and injury process (e.g., Stop **jumping** or you could **fall** and **smash your face**).

Such differential feedback could result in boys being less likely than girls to internalize an appreciation for injury-outcome processes. Hence, girls may acquire a greater sense of perceived vulnerability for injury and the potential for injury when engaging in risk taking behaviors than boys. These speculations are consistent with recent findings revealing sex differences in children's beliefs about injuries (cf. Morrongiello, 1997; Morrongiello & Rennie, 1998).